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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Paul Martin

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EXAMINER

DUONG, THANH P

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/006,875	Applicant(s) MARTIN ET AL.	
	Examiner TOM P. DUONG	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 13-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 13-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 19, 2008 has been entered.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 16-20, and 22-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshizaki et al. (5,582,805).

With respect to claims 1, 16, 17, 22 and 23 Yoshizaki et al. discloses a method for heating a catalyst bed comprising:

having a catalyst bed [Fig. 8, (20); Fig. 15, (44)] having an upstream face and downstream face with an electrical heating element [Fig. 8, (28), Fig. 15, (44/45)] along one face (col. 15, lines 4-6);

passing reactants through the heating element and catalyst bed (col. 10, lines 28-44); and

heating the electrical element to heat the catalyst bed for start up (col. 1, lines 13-16).

With respect to claim 2, Yoshizaki et al. further discloses wherein the heating element can be along the upstream face (col. 15, lines 4-6).

With respect to claim 3, Yoshizaki et al. further discloses wherein the heating element can be formed in any shape, including a winding shape (col. 15, lines 13-15; figure 9).

With respect to claims 4 and 20, Yoshizaki et al. further discloses wherein the catalyst is a monolith (col. 1, lines 18-23 and figure 16).

With respect to claim 5, Yoshizaki et al. further discloses wherein the catalyst can be platinum on an activated alumina carrier (col. 1, lines 18-23). This catalyst is known (an disclosed herein) to operate as an oxidation catalyst as well as a reforming catalyst.

With respect to claims 18 and 24, Yoshizaki et al. further discloses wherein the heating of the catalyst is determined and controlled during operation (col. 46, lines 44-46).

With respect to claim 19, Yoshizaki et al. further discloses wherein the electrical heating element (110) is weaved through the catalyst bed (figure 20, 22, and 32).

3. Claims 16, 17, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Brunson et al. (5,512,251).

With respect to claims 16, 17 and 20, Brunson et al. discloses a method for heating a monolithic catalyst bed (col. 2, lines 15-30 and col. 7, lines 43-59) to start-up temperature with an electrical heating element (col. 1, lines 4-11 and col. 2, lines 15-20).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 13-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bayer et al. (5,562,885) in view of Helmers (2,443,423).

With respect to claims 13-14, 16, 17, 19-21, Bayer discloses a method of heating a monolithic catalyst bed (13/80) by providing an electrical heating element in a coil (84, figure 5) located substantially within the catalyst bed (col. 7, lines 37-54; figure 5); and heating the element, thereby heating the catalyst, to a desired temperature for start-up (col. 1, lines 24-34); and heating element wrapped around monolith.

Bayer et al. fails to disclose the step of providing an electrical heating element positioned within a cooling coil located substantially within the catalyst bed.

Helmers teaches a catalytic reactor is provided with inducting heating element (Col. 3, lines 7-15) in the catalyst bed and cooling coils (5,6) within the catalytic reactor (Col. 5, lines 1-22) to facilitate in controlling the temperature of the catalytic reactor (Col. 2, lines 1-42).

With respect to claims 15 and 18, the applied references disclose all of the steps as discussed with respect to claims 15 and 16 above, as well as the high efficiency achieved by the rapid and uniform heating of the catalytic converter (Bayer et al., col. 7,

line 65- col. 8, line 1,), but fails to explicitly disclose heating during transient operation. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide heat, as needed, during operation of the converter or order to further achieve high efficiency.

It has been held that obviousness may sometimes be based on the common knowledge of persons skilled in the art without relying on a specific suggestion in a particular reference. In re Bozek, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969).

Response to Arguments

Applicant's arguments filed June 19, 2008 have been fully considered but they are not persuasive.

(1) Applicants argue that "There is no disclosure in Yoshizaki "providing an electrical heating element positioned along one face of the catalyst bed." The Yoshizaki "electrical heating element (44/45) along one face (col. 15, lines 4-6)" cited by the Examiner (Office Action, p. 2) as depicted in FIG. 15 is a band heater that heats from the outside edge of the catalyst carrier. Heating in this manner will require longer heat up times and greater energy input. In contrast, the face heater as depicted in FIG. 3 of the present invention heats the face of the catalyst bed (Paragraph 0042) and therefore requires less time to heat the catalyst bed for start-up (Paragraph 0005) and correspondingly less energy (Paragraph 0006)."

Examiner respectfully disagrees. Yoshizaki et al. discloses a method for heating a catalyst bed comprising: having a catalyst bed [Fig. 8, (20); Fig. 15, (44)] having an

upstream face and downstream face with an electrical heating element [Fig. 8, (28), Fig. 15, (44/45)] along one face (col. 15, lines 4-6).

(2) Applicants argue that "Brunson does not anticipate a method for heating a catalyst bed comprising: (1) providing a catalyst bed in communication with an electrical heating element and (2) heating the electrical heating element so as to maintain the desired temperature of the catalyst bed".

Examiner respectfully disagrees. As described in paragraph 3, Brunson et al. discloses a method for heating a monolithic catalyst bed (col. 2, lines 15-30 and col. 7, lines 43-59) to start-up temperature with an electrical heating element (col. 1, lines 4-11 and col. 2, lines 15-20).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (the face heater as depicted in FIG. 3 of the present invention heats the face of the catalyst bed) are not recited in the rejected claims (16, 17, and 20). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

(3) Applicants argue that "Bayer discloses an electrical heating element between stacked sheet-metal layers (col. 7, lines 37- 54), Heating in this manner will require longer heat up times and greater energy input: In contrast, the face heater as depicted in FIG. 3 of the present invention heats the face of the catalyst bed (Paragraph 0042)

and therefore require less time to heat the catalyst bed for start-up (Paragraph 0005) and correspondingly less energy (Paragraph 0006)".

Examiner respectfully disagrees. Bayer discloses the heating elements (18, 20, 22, 24) are located inside of the carrier (13) but also shows these heating elements are extended thru the front or positioned upstream of the catalyst bed (13).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (the electrical heating element is not positioned along the face) are not recited in the rejected claims (13-21). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TOM P. DUONG whose telephone number is (571)272-2794. The examiner can normally be reached on 8:00AM - 4:30PM (IFP).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1797

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tom P Duong/
Patent Examiner, Art Unit 1797